

# How healthful is flaxseed?

Benefits Nutrition Tips Risks Summary

Flaxseed is a plant-based food that provides healthful fat, antioxidants, and fiber. Some people call it a "functional food," which means that a person can eat it to boost their health.

People grew flax as a crop in ancient Egypt and China. In Asia, it has had a role in Ayurvedic medicine for thousands of years.

Today, flaxseed is available in the form of seeds, oils, powder, tablets, capsules, and flour. People use it as a dietary supplement to prevent constipation, diabetes, high cholesterol, heart disease, cancer, and several other conditions.

The nutrients in flaxseed include lignans, antioxidants, fiber, protein, and polyunsaturated fatty acids such as alpha-linolenic acid (ALA), or omega-3. Consuming these nutrients may help lower the risk of various conditions.

However, there is not currently enough evidence to support all of these claims. Here, find out what the research says about flaxseed and its possible health benefits.

## Possible health benefits



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<u>LD</u> on January 9, 2020 — Written by
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The omega-3 in flaxseed may help prevent certain types of cancer cell from developing.

Flaxseed contains some nutrients that may have various health benefits.

Like other plant-based foods, flaxseed is rich in antioxidants. These can help prevent disease by removing molecules called free radicals from the body.

Free radicals occur as a result of natural processes and environmental pressures. If there are too many free radicals in the body, oxidative stress can develop, leading to cell damage and disease. Antioxidants help remove free radicals from the body.

Flaxseed is a good source of lignans, which appear to have antioxidant properties.

According to some scientists, flaxseed may be over 800 times richer in lignans than most other foods.

The following sections discuss the possible health benefits of flaxseed in more detail.

### Reducing the risk of cancer

Flaxseed contains omega-3 fatty acids. Research suggests that these may help prevent different types of cancer cells from growing.

Flaxseed also contains lignans, which are antioxidants that may slow tumor growth by preventing them from forming new blood vessels.

One 2013 survey found a lower incidence of breast cancer among females who consumed flaxseed regularly.

Also, in 2018, the authors of a review concluded that flaxseed may help reduce the risk of breast cancer after menopause.

Lignans are a type of phytoestrogen, which is a plant-based nutrient that acts in a similar way to estrogen. There has been some concern that phytoestrogens may increase the risk of breast cancer, but recent research suggests that they may play a protective role.

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How does diet affect cancer risk? Find out here.

### Improving cholesterol and heart health

The American Heart Association (AHA) recommend eating more fiber and omega-3s to boost heart health. Lignans, too, may help prevent cardiovascular disease. Flaxseed contains all of these nutrients.

Flaxseed also contains phytosterols. Phytosterols have a similar structure to cholesterol, but they help prevent the absorption of cholesterol in the intestines.

Consuming phytosterols may therefore help reduce levels of low-density lipoprotein (LDL), or "bad," cholesterol in the body.

In 2010, researchers looked at the effect of flaxseed on the cholesterol levels of males with moderately high cholesterol. Participants took either a 20 milligram (mg) capsule containing lignans, a 100 mg capsule, or a placebo for 12 weeks.

Cholesterol levels fell after taking lignans, especially in those who took the 100 mg capsules.

The researchers behind a 2012 study involving 17 people found that consuming flaxseed lowered LDL cholesterol levels and helped the body remove fat, although they note that the overall diet may also play a role. The team suggested that dietary flaxseed may be useful for lowering cholesterol levels.

Some scientists have also linked omega-3 oils, which are usually present in oily fish, to reductions in cardiovascular risk. Researchers have suggested that flaxseed could offer an alternative to marine sources of omega 3. This could make it a useful resource for people who follow a plant-based diet.

Learn more about soluble and insoluble fiber here.

#### Easing the symptoms of arthritis

According to the Arthritis Foundation, flaxseed may help reduce joint pain and stiffness. Some people take it for rheumatoid arthritis, lupus, and Raynaud's phenomenon.

They add that there is a lack of evidence to support its use for this purpose, but they say that the ALA in flaxseed may help reduce inflammation.

People can take it:

- ground (one tablespoon per day)
- as an oil (one to three tablespoons per day)
- in capsules (1,300–3,000 mg per day)

What is the anti-inflammatory diet? Find out here.

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### **Reducing hot flashes**

In 2007, a team of scientists published results suggesting that flaxseed may help reduce the incidence or severity of hot flashes in women not using estrogen therapy during menopause.

In 2012, however, further research by the same team concluded that flaxseed did not, in fact, make any difference.

### Improving blood sugar

Lignans and other phytoestrogens may help reduce the risk of chronic conditions such as diabetes.

In 2013, scientists gave 25 people 0 g, 13 g, or 26 g of flaxseed every day for 12 weeks. The participants had prediabetes and were either males with obesity or overweight or females who had undergone menopause.

The 13 g dosage appeared to lower glucose and insulin levels and improve insulin sensitivity, but the other dosages did not have this effect.

Also, a 2016 rodent study suggested that the compounds in flaxseed may help reduce the incidence of type 1 diabetes and delay the onset of type 2 diabetes. These results may not be applicable to humans, however.

The same year, 99 people with prediabetes took 40 g or 20 g of flaxseed or no flaxseed and no placebo each day for 12 weeks. Consuming flaxseed appeared to reduce blood pressure, but it did not improve blood sugar levels or insulin resistance.

The benefits of flaxseed on the symptoms of diabetes remain unclear.

Which foods can lower blood sugar?

### **Preventing constipation**

Flaxseed is a good source of insoluble fiber, which does not dissolve in water, instead remaining in the digestive tract after eating. There, it absorbs water and adds bulk, which may help promote regularity.

However, the National Center for Complementary and Integrative Health (NCCIH) say that there is little evidence to suggest that flaxseed helps reduce constipation.

The NCCIH add that consuming flaxseed with too little water can worsen constipation and may lead to an intestinal blockage.

Also, too much flaxseed or flaxseed oil can cause diarrhea.

Which foods can help relieve constipation? Learn more here.

### Reducing the impact of radiation

In 2013, scientists found evidence to suggest that dietary lignans from flaxseed helped mice

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recover from radiation exposure.

The mice that consumed lignans had lower levels of inflammation, injury, oxidative damage, and fibrosis, as well as a better survival rate, compared with those that did not.

If further tests in humans show similar results, lignans from flaxseed could help treat lung issues following exposure to radiation or radiation therapy.

Other conditions

The NCCIH are currently funding studies to find out whether or not the nutrients in flaxseed can help with:

- ovarian cancer
- · cardiovascular disease
- · metabolic syndrome
- diabetes
- asthma
- inflammation

Uses of flaxseed in Ayurvedic medicine include:

- · promoting overall health
- restoring the skin's pH balance
- preventing chronic conditions, such as diabetes, atherosclerosis, and arthritis
- providing protection from cancer

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## **Nutrition**

According to the United States Department of Agriculture, a tablespoon of ground flaxseed weighing 7 g contains:

• energy: 37.4 calories

• protein: 1.28 g

• fat: 2.95 g

• carbohydrate: 2.02 g

• fiber: 1.91 g

· calcium: 17.8 mg

• magnesium: 27.4 mg

• phosphorus: 44.9 mg

• potassium: 56.9 mg

• folate: 6.09 micrograms (mcg)

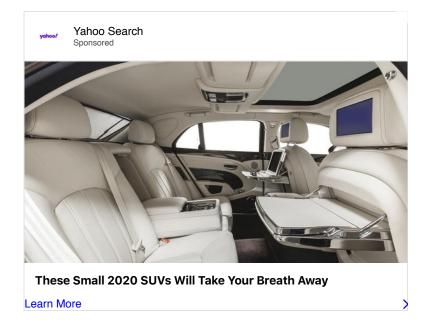
• lutein and zeaxanthin: 45.6 mcg

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A teaspoon of flaxseed also contains traces of various vitamins and minerals, but not in significant quantities. It also provides lignans, tryptophan, lysine, tyrosine, and valine, as well as healthful fats, which are mostly unsaturated.

People should try to avoid whole flaxseed and eat it ground, as the intestines may not absorb the nutrients in whole flaxseeds.

Chia seeds may be another healthful addition to the diet. Learn about them here.



## **Risks**

The nutrients in flaxseed may not benefit everyone. People should avoid flaxseed products or speak to a doctor first if they:

- are using blood thinners, such as warfarin (Coumadin) or aspirin
- · are using nonsteroidal anti-inflammatory drugs
- · are using cholesterol-lowering drugs
- · have hormone-sensitive breast or uterine cancer
- · are pregnant or breastfeeding
- · have an allergy to flaxseed

More generally, people who eat flaxseed should:

Avoid raw and unripe flaxseeds, as they may contain toxic compounds.

Consume flaxseed ground and with plenty of fluid, to prevent digestive problems.

**Buy only small bottles of flaxseed oil** in dark bottles and store them in the refrigerator, as the oil can spoil quickly. Also, avoid using the oil past the expiration date on the label.

**Avoid heating flaxseed oil** in cooking. Add the oil to already prepared dishes and avoid microwaving to reheat.

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# **Dietary tips**

People can use flaxseed ground, as an oil, or in capsules.

It is also present in ready-to-eat foods such as muffins and other baked goods, pastas, snack bars, and milk alternatives.

People can add ground flaxseed to:

- breakfast cereals
- smoothies
- · soups and stews
- salads and sandwiches
- yogurts

People can also add a spoonful of flaxseeds to a muffin mix or use it to coat chicken, instead of breadcrumbs.

However, using too much flaxseed can give food a bitter taste that some people may not like. One solution is to start with small amounts and gradually add more, according to taste.

# Summary

Flaxseed and flaxseed products are rich in antioxidants, especially lignans. They may have some health benefits, but there is not currently enough evidence to confirm these.

Anyone who is considering using flaxseed should first speak to a doctor, to ensure that it is safe for them to use.

There are a selection of flaxseed products available for purchase online.



Can I use flaxseed oil in cooking or on a salad?



People can use flaxseed oil in cooking as long as they do not heat it. It is best to add



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colored bottle in the refrigerator and do not use it after the expiration date.

- Kathy W. Warwick, R.D., CDE

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